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Expressivity of Logics of Knowledge and Action

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Bibliography

- Thomas Ågotnes, Philippe Balbiani, Hans van Ditmarsch, and Pablo Seban. Group announcement logic. *Journal of Applied Logic*, 8(1):62 – 81, 2010.
- Alan Ross Anderson and Omar Khayyam Moore. The formal analysis of normative concepts. *American Sociological Review*, 22:9–17, 1957.
- Lennart Åqvist. Deontic logic. In D. M. Gabbay and F. Guenther, editors, *Handbook of Philosophical Logic*, volume 8. Springer, 2nd edition, 2002.
- Philippe Balbiani, Alexandru Baltag, Hans van Ditmarsch, Andreas Herzig, Tomohiro Hoshi, and Tiago de Lima. What can we achieve by arbitrary announcements? A dynamic take on Fitch’s knowability. In D. Samet, editor, *Proceedings of the 11th conference on Theoretical Aspects of Rationality and Knowledge*, pages 42–51, 2007.
- Philippe Balbiani, Alexandru Baltag, Hans van Ditmarsch, Andreas Herzig, Tomohiro Hoshi, and Tiago de Lima. ‘Knowable’ as ‘Known after an announcement’. *The Review of Symbolic Logic*, 1:305–334, 2008.
- Alexandru Baltag. A logic of epistemic actions. In W. van der Hoek, J.-J.C. Meyer, and C. Witteveen, editors, *Proceedings of ESSLLI’99 Workshop on Foundations and Applications of Collective Agent Based Systems*, 1999.
- Alexandru Baltag and Lawrence Moss. Logics for epistemic programs. *Synthese*, 139: 165–224, 2004.
- Alexandru Baltag and Sonja Smets. Conditional doxastic models: A qualitative approach to dynamic belief revision. In G. Mints and R. de Queiroz, editors, *Proceedings of the 13th Workshop on Logic, Language, Information and Computation (WoLLIC 2006)*, page 521, 2006.
- Alexandru Baltag, Lawrence Moss, and Sławomir Solecki. The logic of public announcements, common knowledge, and private suspicions. In I. Gilboa, editor, *Proceedings of the 7th conference on Theoretical Aspects of Rationality and Knowledge*, pages 43–56. Morgan Kaufmann Publishers Inc., 1998.
- Paul Bartha. Conditional obligation, deontic paradoxes, and the logic of agency. *Annals of Mathematics and Artificial Intelligence*, 9:1–23, 1993.
- Nuel Belnap, Michael Perloff, and Ming Xu. *Facing the Future: Agents and Choices in Our Indeterminist World*. Oxford University Press, New York, 2001.

- Johan van Benthem. Correspondence theory. In Dov Gabbay and Franz Guenther, editors, *Handbook of Philosophical Logic*, volume II, pages 167–247. D. Reidel Publishing Company, 1984.
- Johan van Benthem. What one may come to know. *Analysis*, 64(2):95–105, 2004.
- Johan van Benthem. Dynamic logic for belief revision. *Journal of Applied Non-Classical Logics*, 17(2):129–155, 2007.
- Johan van Benthem, Jan van Eijck, and Barteld Kooi. Logics of communication and change. *Information and Computation*, 204:1620–1662, 2006.
- Johan van Benthem, Jelle Gerbrandy, Tomohiro Hoshi, and Eric Pacuit. Merging frameworks for interaction. *Journal of Philosophical Logic*, 38(5):491–526, 2009.
- Jan Broersen. *Modal Action Logics for Reasoning about Reactive Systems*. PhD thesis, Vrije Universiteit Amsterdam, 2003.
- Jan Broersen. Deontic epistemic stit logic distinguishing modes of mens rea. *Journal of Applied Logic*, 9:127–152, 2011.
- Jan Broersen, Andreas Herzig, and Nicolas Troquard. From coalition logic to stit. *Electronic Notes in Theoretical Computer Science*, 157:23–35, 2006a.
- Jan Broersen, Andreas Herzig, and Nicolas Troquard. Embedding alternating-time temporal logic in strategic stit logic of agency. *Journal of Logic and Computation*, 16:559–578, 2006b.
- José Carmo and Andrew J. I. Jones. Deontic logic and contrary-to-duties. In D. M. Gabbay and F. Guenther, editors, *Handbook of Philosophical Logic*, volume 8. Springer, 2nd edition, 2002.
- Roderick Chisholm. Contrary-to-duty imperatives and deontic logic. *Analysis*, 24: 33–36, 1963.
- Hans van Ditmarsch. *Knowledge Games*. PhD thesis, University of Groningen, 2000.
- Hans van Ditmarsch, Wiebe van der Hoek, and Barteld Kooi. Dynamic epistemic logic with assignment. In *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multiagent Systems*, pages 141–148. ACM, 2005.
- Hans van Ditmarsch, Wiebe van der Hoek, and Barteld Kooi. *Dynamic Epistemic Logic*. Springer, Dordrecht, 2007.
- Hans van Ditmarsch, Sujata Ghosh, Rineke Verbrugge, and Yanjing Wang. Hidden protocols: Modifying our expectations in an evolving world. *Artificial Intelligence*, 208:18–40, 2014a.
- Hans van Ditmarsch, Wiebe van der Hoek, and Barteld Kooi. Arbitrary arrow update logic. In *Short Papers Presented at AiML 2014*, pages 24–28, 2014b.
- Jan van Eijck. Guarded Actions. CWI Technical Report SEN-E 0425, CWI, 2004a. URL <http://oai.cwi.nl/oai/asset/11024/11024D.pdf>.

- Jan van Eijck. Reducing Dynamic Epistemic Logic to PDL by Program Transformation. CWI Technical Report SEN-E 0423, CWI, 2004b. URL <http://oai.cwi.nl/oai/asset/11026/11026D.pdf>.
- E. Allen Emerson and Joseph Y. Halpern. “Sometimes” and “not never” revisited: On branching versus linear time temporal logic. *Journal of the ACM*, 33(1):151–178, 1986.
- Hércules A. Feitosa and Itala M. Loffredo D’Ottaviano. Conservative translations. *Annals of Pure and Applied Logic*, 108:205–227, 2001.
- Michael Fischer and Richard Ladner. Propositional dynamic logic of regular programs. *Journal of Computer and System Sciences*, 18:194–211, 1979.
- Frederic Fitch. A logical analysis of some value concepts. *The Journal of Symbolic Logic*, 28:135–142, 1963.
- James William Forrester. Gentle murder, or the adverbial samaritan. *The Journal of Philosophy*, 81:193–197, 1984.
- Olivier Gasquet and Andreas Herzig. From classical to normal modal logics. In H. Wansing, editor, *Proof Theory of Modal Logic*, pages 293–311, Dordrecht, 1996. Kluwer.
- Jelle Gerbrandy. *Bisimulations on Planet Kripke*. PhD thesis, University of Amsterdam, 1999.
- Valentin Goranko and Wojciech Jamroga. Comparing semantics of logics for multi-agent systems. *Synthese*, 139(2):241–280, 2004.
- James Hales. Arbitrary action model logic and action model synthesis. In *28th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS 2013)*, pages 253–262, 2013.
- Yoram Hirshfeld and Alexander Rabinovich. An expressive temporal logic for real time. In Rastislav Kráľovič and Paweł Urzyczyn, editors, *Mathematical Foundations of Computer Science 2006*, pages 492–504, 2006.
- Wiebe van der Hoek and John-Jules Ch. Meyer. Graded modalities in epistemic logic. In Anil Nerode and Mikhail Taitlin, editors, *Logical Foundations of Computer Science – Tver ’92*, pages 503–514. Springer, 1992.
- John Horty. *Agency and Deontic Logic*. Oxford University Press, New York, 2001.
- Paul Hunter. When is metric temporal logic expressively complete? In Simona Ronchi Della Rocca, editor, *Computer Science Logic 2013 (CSL 2013)*, pages 380–394, 2013.
- Emil Jeřábek. The ubiquity of conservative translations. *The Review of Symbolic Logic*, 5:666–678, 2012.
- Hans Kamp. *Tense Logic and the Theory of Linear Order*. PhD thesis, University of California, 1968.

- Barteld Kooi. Expressivity and completeness for public update logics via reduction axioms. *Journal of Applied Non-Classical Logics*, 17:231–253, 2007.
- Barteld Kooi and Bryan Renne. Arrow update logic. *The Review of Symbolic Logic*, 4:536–559, 2011.
- Barteld Kooi and Johan van Benthem. Reduction axioms for epistemic actions. In R. Schmidt, I. Pratt-Hartmann, M. Reynolds, and H. Wansing, editors, *AiML-2004: Advances in Modal Logic*, volume UMCS-04-9-1 of *Technical Report Series*, pages 197–211. University of Manchester, 2004.
- Louwe B. Kuijer. Sanction semantics and contrary-to-duty obligations. In D. Elgesem T. Ågotnes, J. Broersen, editor, *Deontic Logic in Computer Science, Proceedings of the 11th International Conference on Deontic Logic in Computer Science (DEON 2012)*, pages 76–90, 2012.
- Louwe B. Kuijer. How arbitrary are arbitrary public announcements? In *ESSLLI Student Session 2013 Preproceedings*, pages 76–85, 2013.
- Louwe B. Kuijer. How arbitrary are arbitrary public announcements? In Margot Colinet, Sophia Katrenko, and Rasmus K. Rendsvig, editors, *Pristine Perspectives on Logic, Language and Computation*, pages 109–123, 2014a.
- Louwe B. Kuijer. The expressivity of factual change in dynamic epistemic logic. *The Review of Symbolic Logic*, 7:208–221, 2014b.
- Louwe B. Kuijer. The expressivity of update logics. *Journal of Logic and Computation*, to appear.
- Alessio Lomuscio and Marek Sergot. Deontic interpreted systems. *Studia Logica*, 75: 63–92, 2003.
- Carsten Lutz. Complexity and succinctness of public announcement logic. In P. Stone and G. Weiss, editors, *Proceedings of the Fifth International Joint Conference on Autonomous Agents and Multiagent Systems*, pages 137–143. ACM, 2006.
- John-Jules Ch. Meyer. A different approach to deontic logic: Deontic logic viewed as a variant of dynamic logic. *Notre Dame Journal of Formal Logic*, 29:109–136, 1988.
- George Edward Moore. Moore’s paradox. In Thomas Baldwin, editor, *G. E. Moore: Selected Writings*. Routledge, New York, 1993.
- Jan Plaza. Logics of public communication. In M.L. Emrich, M.S. Phifer, M. Hadzikadic, and Z.W. Ras, editors, *Proceedings of the Fourth International Symposium on Methodologies for Intelligent Systems, Poster Session Program*, pages 201–216. Oak Ridge National Laboratory, ORNL/DSRD-24, 1989. Reprinted as [Plaza, 2007].
- Jan Plaza. Logics of public communication. *Synthese*, 158:165–179, 2007.
- Alexander Rabinovich. Expressive power of temporal logics. In Luboš Brim, Petr Jančar, Mojmir Křetínský, and Antonín Kučera, editors, *CONCUR 2002 - Concurrency Theory*, pages 57–75, 1992.

- Bryan Renne. *Dynamic Epistemic Logic with Justification*. PhD thesis, City University of New York, 2008.
- Pablo Seban. *Who May Say What?* PhD thesis, Université de Toulouse, 2011.
- S. K. Thomason. Reduction of tense logic to modal logic. I. *The Journal of Symbolic Logic*, 39(3):549–551, 1974.
- Leon van der Torre. *Reasoning about Obligations: Defeasibility in Preference-Based Deontic Logic*. PhD thesis, Erasmus University Rotterdam, 1997.
- Rineke Verbrugge. *Efficient Metamathematics*. PhD thesis, University of Amsterdam, 1993.
- Yì Wáng. *Logical Dynamics of Group Knowledge and Subset Spaces*. PhD thesis, University of Bergen, 2013.

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